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REPORT NO. 10

Cotton Fiber and Processing Test Results

CROP OF

1973



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38117 January 4, 1974

This is the tenth of a series of reports of fiber and processing test results from the 1973 cotton crop. Subsequent reports in this series will follow at approximately two-week intervals during the harvesting season, and will be summarized in a comprehensive report at the end of the season. This series will present data on the same subject as "Summary of Cotton Fiber and Processing Test Results, Crop of 1972", May 1973. These reports are published by the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, Memphis, Tennessee.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1973

Discussion of Test Results

Cotton testing laboratories of the Agricultural Marketing Service, USDA, report that fibers from the Southwest short staple samples tested, to date, are coarser and stronger than through the same period a year ago. Yarns spun from these samples show lower appearance grades. Yarn imperfections were fewer in samples tested to date. Average spinning potential yarn number is lower this year.

Averages for all medium staple samples through December 28, 1973 show longer, and coarser fibers than a year ago. Yarns spun from these samples show lower appearance grades.

Southeastern medium staple samples tested show coarser and weaker fiber strength at 1/8 inch gage. Shirley Analyzer nonlint content is higher than a year ago. Yarns spun from these samples show a higher imperfection count and lower average spinning potential yarn number.

South Central medium staple samples are longer, coarser and have weaker fiber strength at 1/8 inch gage than a year ago. Yarn skein strength is lower, as is average spinning potential yarn number.

Southwest medium staple samples have approximately the same fiber qualities as a year ago. Picker and card waste is less this season and yarn appearance grades are lower. Average spinning potential yarn number is lower than last season at this time.

Medium staple samples from the West show fibers to be longer and stronger at both zero gage and 1/8 inch gage tests. Yarns spun from these samples are stronger than a year ago. Appearance grades are lower than at the same period last season. Average spinning potential yarn number is higher.

No additional long staple lots were tested during this report period.

Extra long staple, American Pima, samples from the West are coarser and stronger at both zero gage and 1/8 inch gage test than last season. Shirley Analyzer nonlint content is higher this season. Yarns spun from these samples have higher appearance grades and fewer imperfections.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 28, 1973
1/

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike fine- ness		Fiber strength		S A nonlint		P & C waste		Yarn quality	
		2.5% span	50/2.5 unif.	Zero gage	1/8" gage	G/tex	Mpsi	Pct.	Pct.	Skein str.	Apear- ance	Imperf- ections	Spin. potent.
No.	Inches	Rdg.	Pct.										
Short Staple:													
Southwest	40	0.97	45	4.2	81	21	3.4	6.4	94	118	26	46	
	49	0.97	46	4.5	84	21	3.3	6.3	92	110	17	42	
Medium Staple:													
Southeast	59	1.07	45	4.3	83	23	3.0	6.1	104	103	16	66	
	50	1.08	46	4.6	82	22	3.6	6.0	102	106	21	61	
South Central	158	1.08	46	4.3	83	23	2.8	6.2	105	109	20	64	
	159	1.10	45	4.5	82	22	3.1	5.8	101	107	19	61	
Southwest	39	1.06	45	4.3	83	22	3.3	6.4	100	119	24	61	
	42	1.07	45	4.3	82	22	2.9	5.7	98	99	24	57	
West	60	1.09	46	4.4	90	24	2.6	5.5	110	121	17	66	
	56	1.13	46	4.5	94	26	2.3	5.4	119	103	18	69	
U. S. Average	316	1.08	45	4.3	85	23	2.9	6.0	104	112	19	64	
	307	1.10	46	4.5	84	23	3.0	5.7	104	105	20	62	
Significant difference <u>2/</u>		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3	

1/
2/

Based on a limited number of samples of modal quality
Minimum differences considered to be significant for comparisons in this table. These guides are
based upon averages of a number of lots and are not applicable to individual samples.

Table 1--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through December 28, 1973
 1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results					
		Span	Length	Strength		SA 1/8" gage	Non- lint gage	Comber Waste		Strength carded	Appearence combed	Imprfctns carded	SPY comb
				Unif	Mike Zero gage			P&C Waste	Comber Waste				
No.	In.	Ln.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Ibs.	Ibs.	Ibs.	No.
<u>Long Staple:</u>													No.
	19	1.12	44	4.3	85	24	3.6	8.5	16.9	106	123	102	24
Southeast	1972	1.12	45	4.6	82	23	3.9	8.7	16.9	104	120	117	15
	1973												7
<u>South Central:</u>	4	1.16	44	4.0	88	24	4.2	8.8	16.0	116	131	100	20
	6	1.14	44	4.3	86	24	3.8	8.8	17.3	108	126	117	19
<u>West:</u>	15	1.17	44	3.6	91	25	2.5	7.2	15.6	126	145	91	26
	11	1.16	45	3.8	92	27	2.4	7.2	14.9	136	152	99	18
<u>U. S. Average:</u>	38	1.14	44	4.0	88	24	3.4	8.0	16.3	116	133	97	24
	33	1.14	45	4.3	86	24	3.4	8.2	16.3	115	132	111	16
<u>50's Combed Yarn</u>													
<u>American Pima</u>													
<u>Extra Long Staple:</u>													
<u>West:</u>	16	1.45	32	3.6	98	32	2.6	7.7	17.9	63	114	3	
	12	1.46	31	3.8	100	33	3.1	7.7	17.9	66	123	1	
<u>Significant Difference 2/</u>			0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s)	5
											2(50s)	5	5
											2	2	3

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification Sample Number		Fiber Test Results								Processing Test Results - Carded Yarns							
		Digital Fibrograph	Mike	S.A. Non- lint	Color Raw Stock	P & C Waste	Strength	Elongation	Appearance Index	Imperfect's 8s or 22s or 74 tx	8s or 22s or 74 tx	8s or 22s or 74 tx	Spin. Potential				
No	Grade	Staple span	Unif span	Gage	Zero Gage	1/8"	Gage	74 tx	74 tx	74 tx	74 tx	74 tx	No	No	No	No	No
32S	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	Pct	Pct	Lbs	Lbs	Lbs	No	Pct	Pct	Pct	No
SOUTHWEST AREA																	
CENTRAL TEXAS																	
ITASCA	SLM LT SP	42	31	1.00	4.4	4.8	84	19	6.7	3.4	4	3	6.5	281	84	7.3	6.2
3 SLM LT SP	42	31	1.00	4.4	4.8	84	19	6.7	3.4	4	3	6.5	281	84	7.3	6.2	
NORTHWEST TEXAS																	
ANSON	3 SLM LT SP	42	31	0.95	4.7	4.5	80	19	8.4	2.6	2	3	5.9	305	92	6.8	7.0
HALE CENTER	2 MID	31	30	0.90	4.7	4.3	82	20	6.6	2.7	1	3	5.7	278	82	7.6	6.3
HART	2 SLM LT SP	42	30	0.90	4.7	4.0	85	21	6.1	4.3	2	4	7.9	279	84	7.5	6.2
LENORAH	3 MID	31	30	0.96	4.5	4.2	82	18	6.4	2.3	1	3	5.8	279	87	7.4	6.2
MEADOW	2 SLM	41	31	0.98	4.6	4.3	85	22	6.9	3.2	2	3	5.4	313	98	8.2	7.0
PADUCAH	1 MID LT SP	32	31	1.01	4.5	4.6	82	22	7.5	3.0	2	3	5.3	287	89	7.9	6.9
RULE	2 SLM	41	32	1.03	4.7	4.7	82	23	7.2	3.0	2	3	5.3	299	95	7.9	7.0
STAMFORD	3 SLM	41	32	1.03	4.7	4.7	80	19	7.7	2.8	2	3	5.1	309	96	7.9	6.7
TULIA	2 MID LT SP	32	30	0.91	4.8	4.2	88	21	6.4	3.1	2	4	6.3	284	85	7.4	6.2
OKLAHOMA																	
CARNEGIE	1 MID LT SP	32	30	0.94	4.5	4.8	77	20	7.4	1.6	2	4	3.9	263	81	7.4	6.0
GOTEBO	1 MID LT SP	32	31	0.94	4.6	4.9	85	20	7.1	2.4	2	4	5.2	292	90	8.2	6.8

1/ Cotton stuck to processing rolls

Table 3--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification		Fiber Test Results										Processing Test Results - Carded Yarns										
Sample Number		Digital Fibrograph	Fiber Strength	S.A.	Color	Strength	Elongation	Appearance Index	Imperf'tns	Spin.												
No	Grade	Stple 2.5% span	Mike Zero 1/8" Gage	Non-Lint	Raw Stock	P & C	22s or 22s or 50s or 50s or 22s or 50s or 22s or 50s or	27 tx 12 tx 27 tx 12 tx 27 tx 12 tx 27 tx 12 tx	22s or 50s or 22s or 50s or 22s or 50s or 22s or 50s or	Potential												
	Name & Code	32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No	No	
SOUTHEAST AREA																						
ALABAMA	CULLMAN	41	33	0.99	45	4.8	82	21	6.8	4.0	2	3	5.1	82	22	6.0	4.3	120	90	12	9	42
	3 SLM																					
HUNTSVILLE		41	33	1.01	47	4.8	80	21	7.6	2.8	2	3	5.5	92	24	6.4	4.3	110	90	15	10	53
	3 SLM																					
SYLACAUGA		41	34	1.03	46	4.1	79	21	7.9	3.3	2	2	4.8	100	28	6.9	4.3	100	80	19	16	56
	3 SLM																					
TUSKEGEE		41	34	1.09	45	4.8	81	20	7.4	3.1	2	3	4.2	94	27	6.2	4.5	100	80	17	13	60
	3 SLM																					
TYLER		51	35	1.10	46	4.6	80	22	6.5	4.8	3	2	6.1	100	32	6.4	4.7	100	70	21	17	56
	3 LM																					
NORTH CAROLINA	SHREVEPORT																					
	3 SLM																					
3 SLM	41	34	1.05	47	4.7	88	22	6.3	3.5	2	3	5.5	92	22	5.7	3.6	110	90	13	12	53	
SOUTH CAROLINA AREA																						
YOUTH CAROLINA	MULLINS																					
	3 SLM																					
	41	35	1.12	48	4.9	77	21	7.5	2.7	2	2	4.6	99	31	6.7	4.5	110	80	12	8	66	
ST MATTHEWS		51	34	1.07	44	4.3	80	21	6.7	4.8	3	2	6.1	94	28	5.9	4.1	90	70	23	20	60
SOUTH CENTRAL AREA																						
ARKANSAS	DUMAS																					
	3 SLM																					
	41	35	1.08	47	5.1	82	22	7.0	3.2	3	2	4.8	95	28	5.9	4.2	100	90	10	9	52	
EUDORA		41	34	1.13	45	4.5	78	22	7.6	3.2	2	2	4.8	104	34	7.1	5.2	90	70	20	12	65
	3 SLM																					
HELENA		41	35	1.12	45	4.6	78	22	7.7	3.6	2	2	5.7	104	34	6.7	4.9	100	80	17	12	63
	3 SLM																					
HELENA		51	35	1.11	46	4.2	82	22	7.3	3.9	3	2	6.3	100	31	6.5	4.6	100	80	21	17	61

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification & Sample Number		Fiber Test Results								Processing Test Results - Carded Yarns							
No	Grade	Staple	2.5% span	Digital Fibrograph	Fiber Strength	Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock	P & C Waste	Strength	Elongation	Appearance Index	Imperfect's ns	Spin. Poten- tial			
		Name & Code		Mike Zero Gage	Gage	Gage	Yel			22s or 50s or 27 tx	22s or 50s or 27 tx	22s or 50s or 27 tx	22s or 50s or 27 tx	No			
32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No
WEST AREA																	
ARIZONA																	
CHANDLER	3 MID	35	1.12	45	4.8	87	23	7.1	1.7	0	3	4.7	103	32	6.4	4.6	100
STANFIELD	3 MID	34	1.08	43	4.5	84	23	7.1	3.5	0	3	5.7	97	30	6.4	5.0	90
CALIFORNIA																	
HANFORD	3 SLM	36	1.13	46	3.6	92	25	6.1	2.8	3	3	5.2	119	41	6.1	4.4	80
KERMAN	3 SLM	36	1.13	46	3.4	92	23	6.6	2.7	2	2	4.5	127	43	6.2	5.0	90
MENDOTA	3 SLM	36	1.14	48	3.8	96	26	6.0	3.3	1	2	4.7	131	46	6.4	4.8	90
PIXLEY	3 SLM	35	1.09	44	3.6	92	26	5.5	3.4	2	3	6.2	120	39	5.9	4.4	70
SHAFTER	3 MID	36	1.14	48	4.5	99	27	5.7	2.1	1	3	4.9 ^{1/}	131	45	6.2	4.7	90
STRATFORD	3 SLM	35	1.14	48	3.8	89	25	6.1	4.3	1	3	5.4	128	43	6.4	4.8	100

^{1/} Cotton stuck to processing rolls

Table 4 --Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number		Fiber Test Results										Processing Test Results - Combed Yarns												
		Array Length		Fiber Strength		S.A. Elong- at'n 1/8"		Color Raw Stock		P & C Comber Waste		Strength		Elongation		Appearance Index		Imperf'ns						
No	Grade	Staple	UQL	CV	Mike Zero Gage	1/8" Gage	Gra	Yel	12 tx	7 tx	50s or 80s or 12 tx	80s or 12 tx	7 tx	50s or 80s or 12 tx	80s or 12 tx	7 tx	50s or 80s or 12 tx	80s or 12 tx	7 tx	No	No	No	No	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	Pct	Pct	Lbs	Pct	Pct	Pct	Pct	Pct	Pct	Pct	No	No	No	No	
WEST	AREA																							
ARIZONA																								
PEORIA	3	44	1.49	30	4.0	106	PIMA S-4	8.0	4.0	3	5	7.1	17.6	72	40	5.6	4.9	130	120	1	0			
STANFIELD	4	44	1.50	30	4.1	104	PIMA S-4	7.4	4.1	4	5	7.8	17.1	72	38	5.7	5.0	130	120	1	1			
NEW MEXICO																								
LAS CRUCES	3	44	1.43	31	3.5	101	PIMA S-4	7.5	3.6	3	5	8.3	18.3	65	36	5.4	4.8	120	130	1	0			
WEST TEXAS																								
PECOS	3	44	1.39	31	3.7	101	PIMA S-4	7.4	2.5	4	6	7.1	18.1	67	36	5.5	5.2	120	110	1	2	11	-	

* 100 percent selected for tests, less than 100 percent in the area

